

## Information

## Air Monitoring Program

**T**he Rocky Flats Plant is part of a nationwide U.S. Department of Energy complex for the research, development and production of nuclear weapons. The plant is responsible for fabricating nuclear weapons components from plutonium, uranium, beryllium and stainless steel. Primary production activities include metal fabrication and assembly, chemical recovery and purification of process-related transuranic radionuclides and related quality control functions.

Because radioactive and chemically hazardous materials are handled at Rocky Flats, the plant maintains an extensive environmental protection program. The program, which cost about \$2.7 million to maintain in 1990, includes regular monitoring for radioactive and hazardous materials at locations onsite, at the plant boundary and offsite.

Air releases from plant building ventilation systems and outdoor air at and around the plant are monitored for their quality. The air monitoring results are compared to air quality standards and guidelines issued by the Colorado Department

of Health, the U.S. Environmental Protection Agency and the U.S. Department of Energy.

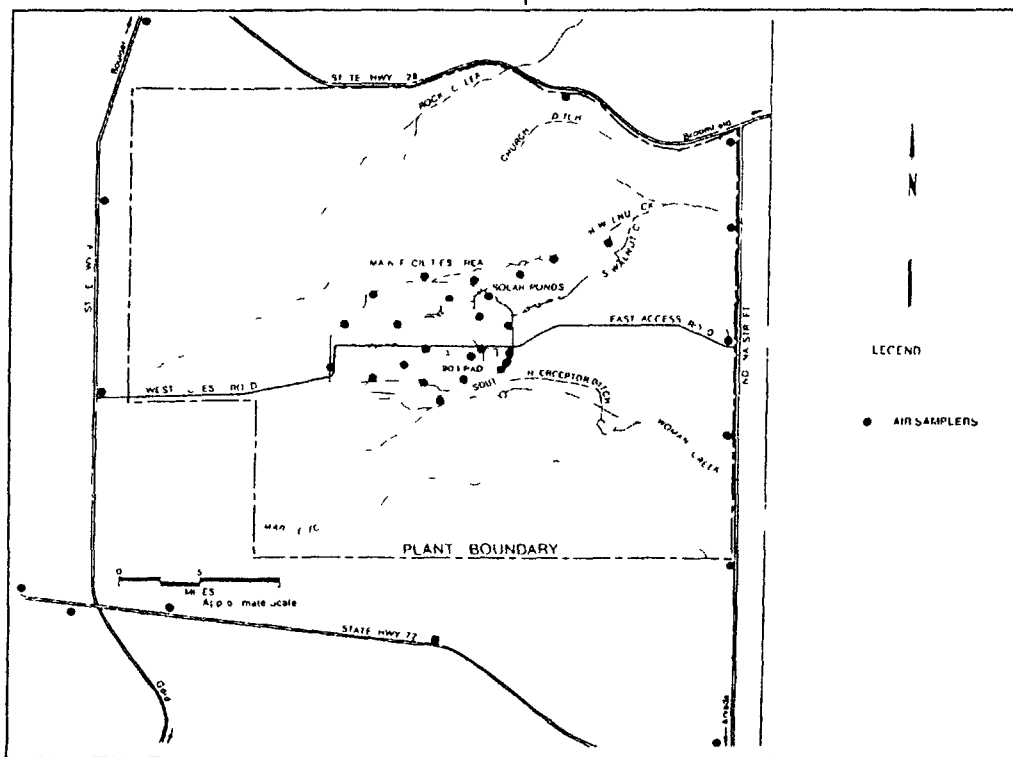
### Air Effluent Control

Production and research buildings in which radioactive materials or beryllium might be used at the Rocky Flats Plant are equipped with controls in their ventilation systems for air leaving the buildings, or "air effluent." These controls include laboratory hoods or gloveboxes for handling the materials and filtration of the air effluent from the hoods or gloveboxes prior to its release. Airborne radioactive or beryllium particulates generated by production and research activities are removed from the air effluent by High Efficiency Particulate Air (HEPA) filters. HEPA filters are especially effective at removing the small particles that may be

hazardous if inhaled into the lungs.

### Air Effluent Monitoring

Air effluent monitoring is conducted continuously after the final stage of HEPA filters to detect and measure the amount of radioactive material released from process or laboratory buildings. Also, pluto-



**ADMIN RECORD**

Location of Ambient Air Samplers in Communities Near the Rocky Flats Plant in 1989

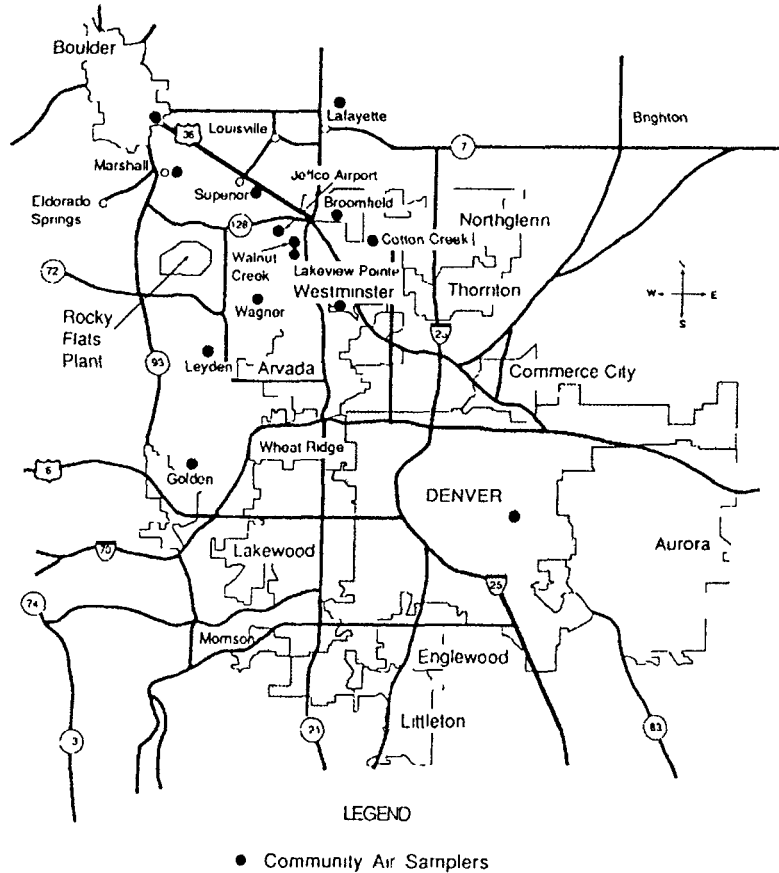
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mium handling buildings are equipped with alarms that signal if plutonium concentrations in the air effluent after the final stage of HEPA filters exceed preset detection points. The alarms serve to notify employees immediately of unusual or accidental releases of plutonium into the air effluent.

Continuous sampling of air effluent, followed by chemical and radioactivity analyses of the samples, allows the measurement of the extremely small amounts of beryllium and radioactivity that may be present in air effluent under normal operations of the plant. Analyses are performed for beryllium, plutonium, americium, uranium and tritium. This information is used to ensure that releases are maintained well below applicable limits and as low as reasonably achievable.

### Ambient Air Monitoring

Rocky Flats conducts continuous sampling of outdoor air, or "ambient air", at 24 locations on plantsite, 14 locations around the plant boundary and in 14 neighboring communities. Ambient air samples are analyzed for plutonium and, at some onsite locations, for suspended radioactive particulates. The Colorado De-



partment of Health maintains its own independent ambient air monitoring program for radioactivity at and near the Rocky Flats Plant, reporting results from seven plantsite samplers, four perimeter samplers and three offsite samplers. The Colorado Department of Health plans to add three onsite sampling locations and one perimeter sampling location to the current network.

### Results and Reporting

Results of the Rocky Flats Plant air monitoring program indicate that plant air effluents are consistently well within applicable limits and that radiation doses to the public from plant activities are far below those received

from naturally occurring sources of radiation exposure. These results are reported monthly at a public environmental information exchange meeting held with the Colorado Department of Health and the cities of Broomfield and Westminister. Also, the results are summarized annually in the *Rocky Flats Plant Site Environmental Report*.

The results of the Colorado Department of Health air monitoring program also are reported at the monthly environmental information exchange meeting. These results have historically verified the extremely low levels of airborne radioactivity from Rocky Flats Plant operations.